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(425) 420-9200 FAX 420-9210 (509) 924-9200 (503) 906-9200

(541) 383-9310

FAX 924-9290 FAX 906-9210 FAX 382-7588

CHAIN OF CUSTODY REPORT

Work Order #: P1H0330

CLIENT: BRISTO	_		-	IN	VOICE 1	го:								TURN	IAROUNI	O REQUEST in Busi	ness Da	ys*
REPORT TO: ANNE	KRAMAWE	TE	X	18	3R15	310(1		ic & Inorganic Analyses		
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PHONE: 907-770 PROJECT NAME: AMC	HITCA			11.		EQUESTI								ST		Please Specify	8	13/01
PROJECT NUMBER: 210	090	1 1	3												ОТН	Please Specify Monday	pm	
SAMPLED BY:		000	3	2										*Turnara	ound Requesis	less than standard may incu	Rush Chai	ges.
CLIENT SAMPLE	SAMPLING	LEAU TCLP	Flority pur 1010 BTEX	80318									MAT	RIX	# OF			NCA WO
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 429.4.
 JU Tax 423-420-3210

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 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132

 503.906.9200
 fax 503.906.9210

Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711 541.383.9310 fax 541.382.7588

17 August, 2001

Steve Johnson Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

RE: Amchitka

Enclosed are the results of analyses for samples received by the laboratory on 08/13/01 11:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Joy D. Chang For Jerry Orlando Project Manager/QA

Work Orders included in this report:

P1H0330



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 21090, PO# 21090

Project Manager: Steve Johnson

Reported:

08/17/01 14:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
01AMC501MI	P1H0330-01	Other wet	08/09/01 18:00	08/13/01 11:20
01AMC502MI	P1H0330-02	Water	08/09/01 18:05	08/13/01 11:20

North Creek Analytical - Portland

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Joy D. Chang For Jerry Orlando, Project Manager/QA

North Creek Analytical, Inc. **Environmental Laboratory Network** 1 of 9



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423.4 Jo lax 425.420.9710 East 11115 Montgomery, Suite B, Spokane, WA 99206-4776 509.924.9200 fax 509.924.9290 9405 SW Nimbus Avenue, Beaverton, OR 97008-7132 503.906.9201 fax 503.906.9210

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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 21090, PO# 21090

Project Manager: Steve Johnson

Reported:

08/17/01 14:13

BTEX per EPA Method 8021B North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMC501MI (P1H0330-01) Other wet					Sampled: 08/0	9/01 Rece	ived: 08/13/	01	
Benzene	ND	100	mg/kg wet	100	EPA 8021B	08/13/01	08/13/01	1081280	
Toluene	308	100	"	n	ıı .	"	H	"	
Ethylbenzene	289	100	tt	11	u	*	n	ır	
Xylenes (total)	1360	100	tt	**	ıı	n	н	11	
Surr: a,a,a-TFT (PID)	NR	75-125				····			S-0.
01AMC502MI (P1H0330-02) Water					Sampled: 08/0	9/01 Rece	ived: 08/13/	01	
Benzene	ND	0.500	ug/l	1	EPA 8021B	08/13/01	08/13/01	1081262	
Toluene	ND	0.500	"	"	н	н	11	n	
Ethylbenzene	ND	0.500	Ħ	"	n	н	**		
Xylenes (total)	ND	1.00	**	н	n	H	ŧŧ	H	
Surr: 4-BFB (PID)	93.0 %	75-120							

North Creek Analytical - Portland

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Joy D. Chang For Jerry Orlando, Project Manager/QA



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 21090, PO# 21090

Project Manager: Steve Johnson

Reported:

08/17/01 14:13

TCLP Metals per EPA 1311/6000/7000 Series Methods

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMC501MI (P1H0330-01) Other wet				5	Sampled: 08/0	9/01 Rece	ived: 08/13/	01	
Lead	ND	10.0	mg/l	20	1311/6010A	08/14/01	08/15/01	1081361	M-01



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 21090, PO# 21090

Project Manager: Steve Johnson

Reported:

08/17/01 14:13

Physical Parameters per APHA/ASTM/EPA Methods

North Creek Analytical - Portland

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01AMC501MI (P1H0330-01) Other wet				S	Sampled: 08/0	9/01 Recei	ived: 08/13/0	 D1	
Flashpoint	ND	150	°F	1	EPA 1010	08/14/01	08/15/01	1081346	

North Creek Analytical - Portland

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Joy D. Chang for Jerry Orlando, Project Manager/QA

North Creek Analytical, Inc. **Environmental Laboratory Network**



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 21090, PO# 21090

Project Manager: Steve Johnson

Reported: 08/17/01 14:13

BTEX per EPA Method 8021B - Quality Control

North Creek Analytical - Portland	
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	Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
--	---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch 1081262 - EPA 5030B

Blank (1081262-BLK1)		Prepared & Analyzed: 08/13/01							
Benzene	ND	0.500	ug/l						
Toluene	ND	0.500	n						
Ethylbenzene	ND	0.500	ŧı						
Xylenes (total)	ND	1.00	H						
Surr: 4-BFB (PID)	42.0		11	50.0	84.0 75-120				
LCS (1081262-BS2)	Prepared & Analyzed: 08/13/01								

					and production	J, U I
Benzene	20.0	0.500	ug/l	20.0	100	70-130
Toluene	23.3	0.500	n	20.0	116	70-130
Ethylbenzene	18.6	0.500	11	20.0	93.0	70-130
Xylenes (total)	57.0	1.00	**	60.0	95.0	70-130
Surr: 4-RFR (PID)	16.2			50.0		

Surr. 4-DrB (FID)	46.2		"	50.0	92.4	75-120			
LCS Dup (1081262-BSD2)				Prepared & A	Analyzed: 08/1	3/01			
Benzene	17.1	0.500	ug/l	20.0	85.5	70-130	15.6	200	
Toluene	17.4	0.500	*1	20.0	87.0	70-130	29.0	200	
Ethylbenzene	17.2	0.500	"	20.0	86.0	70-130	7.82	200	
Xylenes (total)	51.5	1.00	Ħ	60.0	85.8	70-130	10.1	200	
Surr: 4-BFB (PID)	46.0		п	50.0	92.0	75-120			

Batch 1081280 - EPA 5035

Blank (1081280-BLK1)	Prepared & Analyzed: 08/13/01						
Benzene	ND	0.0500	mg/kg				
Toluene	ND	0.0500	n				
Ethylbenzene	ND	0.0500	ıı				
Xylenes (total)	ND	0.0500	n				
Surr: a,a,a-TFT (PID)	1.36		,,	1.25	109	75-125	

North Creek Analytical - Portland

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Joy D. Chang For Jerry Orlando, Project Manager/QA



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 21090, PO# 21090

Project Manager: Steve Johnson

Reported: 08/17/01 14:13

BTEX per EPA Method 8021B - Quality Control

N	orth	Creek	Analy	tical -	Portland

	110	tui Creek	Analyt	icai - P	oruand					
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1081280 - EPA 5035								****		- · <u> </u>
LCS (1081280-BS2)				Prepare	d & Analy	zed: 08/1	3/01	***		
Benzene	0.453	0.0500	mg/kg	0.500		90.6	65-130			
Toluene	0.483	0.0500	"	0.500		96.6	65-130			
Ethylbenzene	0.473	0.0500	11	0.500		94.6	65-130			
Xylenes (total)	1.37	0.0500	11	1.50		91.3	65-130			
Surr: a,a,a-TFT (PID)	1.35		n n	1.25		108	75-125			
Matrix Spike (1081280-MS1)	So	urce: P1H02	66-02	Prepare	d: 08/13/0	1 Analyz	ed: 08/14/	01		Q-0:
Benzene	0.816	0.0500	mg/kg dry	0.569	ND	143	65-130			Q-0.
Toluene	0.836	0.0500	"	0.569	ND	147	65-130			
Ethylbenzene	0.828	0.0500	**	0.569	ND	146	65-130			
Xylenes (total)	2.35	0.0500	п	1.71	ND	137	65-130			
Surr: a,a,a-TFT (PID)	1.71		"	1.42		120	75-125			
Matrix Spike Dup (1081280-MSD1)	So	urce: P1H02	66-02	Prepare	d: 08/13/0	1 Analyz	ed: 08/14/	01		Q-0 1
Benzene	0.816	0.0500	mg/kg dry	0.569	ND	143	65-130	0.00	20	
Toluene	0.837	0.0500	11	0.569	ND	147	65-130	0.120	20	
Ethylbenzene	0.822	0.0500	11	0.569	ND	144	65-130	0.727	20	
Xylenes (total)	2.33	0.0500	**	1.71	ND	136	65-130	0.855	20	
Surr: a,a,a-TFT (PID)	1.94		n	1.42		137	75-125			S-02

North Creek Analytical - Portland

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orlando, Project Manager/QA



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Portland

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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

LCS (1081361-BS1)

Lead

Lead

Project: Amchitka

Project Number: 21090, PO# 21090

2.00

100

Project Manager: Steve Johnson

Reported:

08/17/01 14:13

M-01

M-01

TCLP Metals per EPA 1311/6000/7000 Series Methods - Quality Control

North Creek Analytical - Portland

Analyte	Result	Limit	Units	Level	Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1081361 - EPA 1311/3005										
Blank (1081361-BLK1)				Prepare	d: 08/14/0	1 Analyz	ed: 08/15/	01		-
Lead	ND	0.200	mg/l							M-01

mg/l

0.200

10.0

æad	1.20	0.200	mg/l
Matrix Spike (1081361-MS1)	Sourc	e: P1H033	0-01

1.20

126

Prepared: 08/14/01 Analyzed: 08/15/01

60.0

Prepared: 08/14/01 Analyzed: 08/15/01 ND 125 50-150

60-140

North Creek Analytical - Portland

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Joy D. Chang For Jerry Orlando, Project Manager/QA



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 21090, PO# 21090

Project Manager: Steve Johnson

Reported:

08/17/01 14:13

Physical Parameters per APHA/ASTM/EPA Methods - Quality Control

North Creek Analytical - Portland

Analyta		Reporting		Spike	Source		%REC		RPD	İ
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 1081346 - EPA 1010

Duplicate (1081346-DUP1)	Source	e: P1H030	2-01	Prepared: 08/14/01	Analyzed: 08/15/01
Flashpoint	ND	150	٥F	ND	50

North Creek Analytical - Portland

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or Jerry Orlando, Project Manager/QA



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Bristol Environmental & Engineering 2000 W. International Airport Rd. #C-1 Anchorage, AK 99502-1116

Project: Amchitka

Project Number: 21090, PO# 21090

Project Manager: Steve Johnson

Reported:

08/17/01 14:13

Notes and Definitions

Analysis performed by EPA 200.8/6020 due to matrix interference or to meet lower reporting limit. M-01

The spike recovery, and/or RPD, for this QC sample is outside of established control limits. Review of associated batch QC Q-01

indicates the recovery for this analyte does not represent an out-of-control condition for the batch.

The surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or S-01 matrix interferences.

The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds S-02

present in the sample.

DET Analyte DETECTED

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.

Sample results reported on a wet weight basis (as received) wet

RPD Relative Percent Difference

North Creek Analytical - Portland

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Jenny Orlando, Project Manager/QA